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WHEAT FOR SWINE IN ALBERTA

By

R. D. SINCLAIR
PROFESSOR OF ANIMAL HUSBANDRY
UNIVERSITY OF ALBERTA

and

PETER WYLLIE
SHEEP AND SWINE PROMOTER
DEPARTMENT OF AGRICULTURE

Authorized by
HON. D. B. MACMILLAN
MINISTER OF AGRICULTURE

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R. D. SINCLAIR and PETER WYLLIE

Many Alberta farmers are faced with a shortage of oats and barley but they have a considerable quantity of wheat on hand. They are anxious to carry on their regular live stock feeding programme and the national emergency makes it important that there be as little interruption as possible in this branch of Alberta's agriculture.

Questions relating to the use of wheat in swine feeding, its value as compared with other grains, quantities which may be fed with safety, as well as many others, are being asked by those concerned.

This circular is being issued to supply certain information which may serve to answer some of these questions.

WHEAT AS A FEED

Wheat has many qualities which makes it a desirable feed for swine and it actually has some advantages over oats and barley. It is low in fibre, high in starch, a fairly good source of protein, and contains a number of essential vitamins. Some idea of the comparative feeding values of the three grains in swine feeding may be obtained from the results of the tests at the University of Alberta. When the three grains of good quality, **suitably supplemented,** were fed to growing pigs from the time they were weaned until ready for market, it was found that barley was 94%, and oats 87%, as efficient as wheat. In other words, 100 pounds of wheat would replace 106 pounds of barley or 115 pounds of oats.

In common with other grains, wheat is deficient in certain elements. It is low in calcium (lime). It does not contain sufficient protein for young, growing pigs, and there is apt to be a shortage of vitamins A (for growth) and D (to prevent crippling).

The different grades of wheat will vary in feeding value in fairly direct proportion to the weight per measured bushel. The higher grades will differ but slightly in feeding value although they may differ in actual milling value. Feeding trials show that wheats of Nos. 1, 2 and 3 Northern grades will give practically the same returns when fed to hogs with some slight reduction in value by grades down to the poorer samples of frost damaged feed wheat. The lower grades of feed wheat as well as recleaned wheat screenings may be fed satisfactorily by mixing them with grains of better quality.

Wheat should be medium to coarsely ground before feeding to swine. If ground too finely it tends to become gummy and less easily digested.

In the discussion which follows any reference to "parts" of wheat to other grains is on the basis of **parts by weight** rather than by measure. For example, "1 part of oats to 1 part of wheat" means 10 pounds of oats to 10 pounds of wheat. Parts by measure would alter the proportion since ground wheat per unit of measure weighs more than a similar volume of ground oats or barley.

Wheat may be fed with safety to all classes of swine but **best results will not be secured unless proper attention is paid to the feeding of protein, mineral and vitamin supplements** as additions to the grains.

Feeding wheat to pigs will not exert any detrimental effect on the quality of the carcass produced.

FEED MIXTURES

BROOD SOWS

Wheat may be used up to one half of the grain mixture for pregnant sows or sows nursing litters. Oats 1 part, wheat 1 part would be satisfactory although in case of an extreme shortage of other grains the wheat could be increased up to two thirds of the mixture. Feed the amount necessary to bring the sows up to good condition at farrowing but do not allow them to become too fat. A reasonable amount of exercise should be provided.

If skim milk is not available, tankage or some other supplement should be added to the grain at the rate of from 5% to 8% by weight, depending upon whether old sows or gilts are being fed.

Add 1 pound of ground limestone and ½ pound of salt to each 100 pounds of grain.

Keep some good green alfalfa hay before the sows and if this hay is not available supply green oat sheaves.

Feed the sows potassium iodide as a preventative of weak or hairless pigs. Give each sow daily, for at least three months, 1 tablespoonful of a solution made up by dissolving 2 ounces of potassium iodide in 1 gallon of water.

WEANING PIGS

The small pigs may be started on a grain mixture containing wheat, before they are weaned. A mixture of 1 part coarsely ground wheat and 2 parts oats (hulls removed) may be fed in a creep.

Following weaning, the amount of wheat may be increased if other grains are scarce, and a combination of ½ oats and ½ wheat will be satisfactory. **The hulls should be sifted from the oats** during the first month following weaning.

Skim milk fed along with the grain at the rate of 2 to 3 pounds of milk to each pound of grain will supply the necessary protein and 1 pound of ground limestone and ½ pound of salt added to each 100 pounds of grain will supply sufficient mineral. If milk is lacking, tankage at the rate of 10% or a mixed supplement at the rate of 12% should be added to the grain.

If the pigs are fed inside the piggery they should be given 1 tablespoonful per day of cod liver oil or pilchard oil of good quality until they reach a weight of approximately 100 pounds.

GROWING AND FINISHING PIGS

When the pigs reach the 100 pound stage the percentage of wheat in the grain mixture may be increased gradually until 1 part ground oats and 3 parts ground wheat are being fed. During the last month of finishing, wheat alone may be used if the supply of other grains is short.

During the finishing stage (120 pounds to 200 pounds), the amount of supplement fed may be reduced by one half, **but the same amount of mineral recommended for the after weaning period should be continued.**

The following table is submitted as a guide to mixtures which might be used depending upon the quantities of the various grains which are available for feeding.

The proportions of grains suggested in the table may be altered to suit special conditions, but it is important that the **amount of supplement** be maintained as recommended.

SUGGESTED FEED MIXTURES FOR VARIOUS CLASSES OF SWINE

Class of Pig	Mixture Number	Wheat (Lbs.)	Barley (Lbs.)	Oats (Lbs.)	*Supplements (Lbs.)	Total (Lbs.)
Mature Brood Sows....	1	475	475	950	100	2000
	2	950	.....	950	100	2000
	3	.....	950	950	100	2000
Young Brood Sows....	1	460	460	920	160	2000
	2	920	.....	920	160	2000
	3	.....	920	920	160	2000
Suckling Pigs	1	500	500	1000	.....	2000
	2	1000	.....	1000	.....	2000
	3	.....	1000	1000	.....	2000
Hulls should be sifted from oats at this stage.						
Weaning to 120 pounds....	1	600	600	600	200	2000
	2	900	.....	900	200	2000
	3	.....	900	900	200	2000
Hulls should be sifted from oats until pigs reach a weight of 80 pounds.						
Growing and Finishing 120 to 200 pounds	1	1600	.....	300	100	2000
	2	1300	.....	600	100	2000
	3	1000	400	500	100	2000
	4	400	1000	500	100	2000

*Tankage or mixed protein supplements should be used in the proportions mentioned in the table. If skim milk is available, it may be fed in place of the supplements, at the rate of from 2 to 3 pounds of milk to each pound of grain following weaning.

The use of rations such as suggested in this table should make it possible to grow a hog from weaning time to market weight (200 pounds) with 600 pounds of grain and 40 pounds of supplement.

SUMMARY

(1) Wheat may be utilized satisfactorily in swine feeding, and can be used to replace barley in a grain mixture.

(2) While wheat has a comparatively high feeding value, it does not contain sufficient protein and mineral for growing pigs.
Supplementary feeding is essential.

(3) Wheat should be medium to coarsely ground.

(4) In mixing wheat with other grains **use parts by weight** rather than parts by measure.

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